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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/972,155

10/09/2001

John Boyer

12-74 US

4939

25319

7590

09/25/2002

FREEDMAN & ASSOCIATES

117 CENTREPOINTE DRIVE

SUITE 350

NEPEAN, ONTARIO, K2G 5X3

CANADA

EXAMINER

PAIK, STEVE S

ART UNIT

PAPER NUMBER

2876

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/972,155

Applicant(s)

BOYER ET AL.

Examiner

Steven S. Paik

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities: claim 1 recites "a start address" in line 3 and 7. In order to avoid the issue of lacking the antecedent basis, the examiner respectfully suggests amending the second "a start address" to -- the start address -- if that is what the applicant intends to recite. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (hereinafter, AAPA) in view of IBM Technical Disclosure Bulletin, October 1978, US (APL with Extended Workforce, October 1978, hereinafter IBM).

Re claims 1, 3-5, 8, 10-12, 15-17 and 18, AAPA discloses a method and apparatus for encoding information using an encoding standard, known as PKCS15 dictates how software keys and certificates are represented in terms of smart card files and directories (2<sup>nd</sup> paragraph on page 1). The PKCS15 compatible format for a smart card contains an Object Directory File. This file contains pointers to other directory files. A Certificate Directory File (CDF) is regarded as a directory of certificates known to the PKCS15 application and at least one CDF must be present on a smart card. The CDF contains certificates or references to certificates. A Data Object

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Directory (DODF) must be present on a smart card containing data objects (2<sup>nd</sup> paragraph on page 2 and see Fig. 1). AAPA further discloses a start and an end address, pointer, and a data object within a directory file

AAPA, however, fails to disclose the steps of storing the data object in at least a last available memory location within the directory file, the last available memory location nearer the start address of the directory file than earlier stored data object and storing pointer data in least a first available memory location most proximate the start address and between the start address and the end address.

IBM discloses a technique for storing objects in a unit of storage called workspace (i.e. magnetic disk or memory) at two sets of sequential addresses, one sequence beginning at the low address (start address) and one sequence beginning at the high address (end address). This creates a contiguous block of memory at the beginning of start address of memory location, a contiguous block of memory at the end address of memory location, and an unused signal block of memory in the middle. Pointers identify the next available storage location at the ends of the sequences, and thus define a free space in the middle of the workspace (see page 1, Disclosure Text). This technique provides a user to achieve highly efficient usage of the storage unit. Thus, resulting in saving cost of storage device such as magnetic disk, hard disk, non-volatile memory or the like.

In view of IBM teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to further employ a technique to maximize the capacity of a storage device in addition to the PKCS15 compatible format of AAPA due to the fact that more data objects can be stored on the storage medium for the purposes of saving the cost of a storage

capacity. Furthermore, such modification of employing a technique

sets of sequential addresses, one from the top and the other from the  
the single block of unused memory in the middle, to the teachings of  
been an obvious matter of design variation, well within the ordinary skill in  
are an obvious expedient.

claims 2, 9 and 19, AAPA discloses the method and apparatus as recited in  
claims 1, 8 and 15 stated above, where data stored within the smart card according to the  
ceding steps is retrievable in accordance with PKCS15 standard (AAPA discloses an  
encoding technique using the PKCS15 compatible format for a smart card.

Regarding claims 6 and 13, AAPA discloses the method and apparatus as recited in rejected  
claims 1 and 8 stated above respectively, where the memory start address (22 in Fig. 1 of AAPA)  
is lower than the memory end address (24).

Regarding claims 7 and 14, AAPA discloses the method and apparatus as recited in rejected  
claims 1 and 8 stated above respectively, where the memory start address (see page 1, Disclosure  
Text) is higher than the memory end address and wherein a forward direction in memory is from  
higher address values toward lower address values. As IBM discloses, the units of storage called  
workspace can be a magnetic disk, which retrieves objects according to its address location. An  
object in a directory file may be retrieved in results of locating and reading the appropriate  
address. It is well known that a program can be set up with a particular reading direction of  
memory. For example, one can read from address 0000 to FFFF or vice versa according to  
design and programming specifications.

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*Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

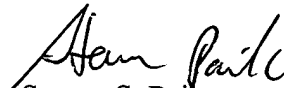
Fujita et al. (USP 6,441,290) disclose a method for reading data stored in a storage device, such as a hard disk, sequentially and updating addresses of the data object in a memory.

Wakayama et al. (USP 5,920,869) disclose an object-oriented database management system controlling each data object using information indicating a storage area position of the data object in the database and a management serial number of storage area.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven S. Paik whose telephone number is 703-308-6190. The examiner can normally be reached on Mon - Fri (7:00am-3:30pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 703-305-3503. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-6893 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.



Steven S. Paik  
Examiner  
Art Unit 2876

ssp  
September 17, 2002



MICHAEL G. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800